

REMARKS

Allowance after reconsideration is respectfully solicited.

The Amended Claims

Amended claims 1, 2, 18 and 19 correct editorial oversights. Amended claim 1 corrects "1 to 100 μm " to read "0.1 to 100 μm " per the specification at page 11, lines 9-14, which in reality does not introduce any new issues for the purposes of an appeal, if an appeal proves necessary. Amended claim 2 merely changes "B" to "(B)" for visual consistency, and that clerical edit can hardly constitute new matter or a new issue. Amended claim 18 has been corrected, as in claim 1, and also now includes the base resin definition from claim 19. The amended claim 18 range is consistent with ranges in previously pending claims, so the clerical amendment introduces no new issue, no new matter, and certainly does not introduce a new claim. Claim 19 has been amended to drop the now redundant definition of the base resin.

Interview Summary

The undersigned acknowledges the Examiner's courtesies in a series of telephone conversations, initiated on August 6, 2002 and the last occurring on August 9th. The undersigned requested the Examiner to re-review the Amendment submitted July 12, 2002 on the bases that there was no new matter, there were no new issues, and there were no new claims. It was suggested that its entry would reduce issues for appeal. The undersigned directed the Examiner to previously pending claims in which the wt.% ranges in claim 18 and in 19 were already presented. The Examiner indicated an intention to re-review the case. The Examiner communicated his recommendation to re-submit the July 12, 2002 Amendment on Friday, August 9th.

Please Enter This Amendment

Applicant respectfully submits the Amendment does not add new issues, nor does it introduce new matter. It is also respectfully suggested that the Amendment places the claims in better condition for resuming the Appeal and reduces, if not overcomes, formality issues under Section 112, for purposes of Appeal.

The Claims Satisfy the Requirements of Section 112

Amended claim 18 changes “5-20 to “5-70” in response to the Examiner’s objections under §112. This will also resolve the objections to claims 19 to 20 based on the recited ranges in the layer (B). This range is also numerically consistent with the range recited in pending claim 9.

Amended claim 19 is compliant with 35 U.S.C. §112 (¶1). The range recited in proposed amended claim 19 finds numerical consistency with pending claim 11.

Furthermore, the present application conveys to the artisan skilled in this art that Applicants had possession of the laminated extruded resin sheet in which the resin layer (A) is made by dispersing uniformly 3 to 50 parts by weight of a rubber containing polymer into 100 parts by weight of a methyl methacrylate resin at a time no later than the filing date of the application. As stated by the Court in *In re Edwards*, 196 U.S.P.Q. 465, 467 (CCPA 1978):

The function of the description requirement is to ensure that the inventor had possession, as of the filing date of the application relied on, of the specific subject matter later claimed by him. E.g., *In re Blaser*, 556 F.2d 534, 194 USPQ 122 (CCPA 1977); *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Smith & Hubin*, 481 F.2d 910, 178 USPQ 620 (CCPA 1973). To comply with the description requirement it is not necessary that the application describe the claimed invention in *ipsis verbis*, *In re Lukach*, 58 CCPA 1233, 442 F.2d 967, 169 USPQ 795 (1971); all that is required is that it reasonably convey to persons skilled in the art that, as of the filing date thereof, the inventor had possession of the subject matter later claimed by him. See *In re Driscoll*, 562 F.2d 1245, 195 USPQ 434 (CCPA 1977). In the context of the present case, this translates into whether the ... application provides adequate direction which reasonably leads persons skilled in the art to the later claimed [invention].

The specification instructs that the rubber-containing polymer can be present in an amount of up to about 50 parts by weight, as seen from page 8, line 15. The lower value can be “0,” but the specification also instructs the person skilled in the art that the lower bound is preferably from “3” parts by weight, as seen at page 8, line 16, and Example 6 (4 parts by weight). The presence or absence of a “working” Examples *in hoc verba* corresponding to “3 to 50 parts by weight is irrelevant.

The number values find express support in the specification, in previously entered claims, and therefore claims 18 and 19 are deemed “supported.”

**Claims 1, 2, 5, 7, 8 and 16-21 define novel
inventions over U.S. Patent 5,415,931 to Minghetti et al.**

The present invention generally concerns an at least three-layer laminated sheet which is obtained by laminating acrylic resin layers (B) containing insoluble acrylic resin particles on both surfaces of an acrylic resin layer (A), as described in claims 1 and 18.

Minghetti et al. ('931) disclose a film (sheet) made by cast polymerization of methyl methacrylate in which particles of polymethyl methacrylate are dispersed. The reference does not disclose nor would it have suggested a multi-layered structure, whether a bi-layered structure or, for example, an at least three layered structure. Although explained more fully elsewhere hereinbelow, the lack of any disclosure of a multi-layered structure, especially an at least three-layered structure, overcomes the novelty rejection.

Applicant respectfully requests reconsideration of the points advanced in the Office Action predicated on the hypothesis that *if* least three layers comprise the same composition as asserted by the Examiner (Office Action, page 3), the Minghetti et al. laminate would correspond to the claimed laminated resin sheets. Hypothetical interpretations of the cited reference, while interesting, do not pass muster for purposes of 35 U.S.C. §102. *See, e.g., Trintec Industries, Inc. v. Top-U.S.A. Corporation*, Appeal No. 01-1568 (Fed. Cir. July 2, 2002), citing *In re Robertson*, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (Inherent anticipation requires that the missing descriptive material is ‘necessarily present,’ not merely probably or possibly present, in the prior art.) The use of “when all three layers” (Office Action, page 4) would seem more of an “if” at most; and besides even if the three layers herein individually had the same composition, the laminate would still have an at least three layer structure, which structure is not disclosed in the Minghetti et al. reference. The reference would at most refer to using a “same” syrup (“same” composition) to make only one layer.

The size and shape of particles in a film (lamine etc.) according to the present invention would be different from those of the Minghetti et al. reference. According to the Minghetti et al. reference, a syrup includes particles (ground up matter). Although the size of the particles added is about 0.1 mm to about 2.0 mm, preferably about 0.2 mm to about 0.5 mm, the particles absorb the syrup and expand to over 200% of their original volume. The particles are inseparable from the matrix and become part of the continuous phase of the matrix in the sheet. See, col. 2, lines 20-52, col. 3., line 66 to col. 4, line 2, and col. 4, lines 60-63. On the other hand, the insoluble particles used in the present invention in the recited particle sizes would not be expected to expand in a base resin and are insoluble in a base resin.

The Minghetti et al. reference does not disclose nor would it have suggested a sheet and a method for obtaining a molded article having smaller bias of thickness in secondary thermoforming. An object of the Minghetti et al. reference is to obtain a sheet having a textured surface, which is not providing a molded article having smaller bias of thickness in secondary thermoforming. Applicant respectfully points out that the Minghetti et al. reference would not have yielded a molded article having effectively smaller bias of thickness in secondary thermoforming as shown in Comparative Example 4 of the present invention.

Accordingly, please withdraw the rejection.

**Claims 9-15 define unobvious inventions
over the Minghetti et al. '931 reference,
further in view of the Hatakeyama reference.**

As one court has observed, "[t]he ever present question in cases within the ambit of 35 U.S.C. 103 is whether the subject matter as a whole would have been obvious to one of ordinary skill in the art following the *teachings* of the prior art at the time the invention was made." *In re Wesslau*, 147 USPQ 391, 393 (CCPA 1965) (emphasis in original). As the Court of Customs and Patent Appeals, whose rulings are binding precedent on the Federal Circuit and on the PTO, also held, "[i]t is impermissible within the framework of section 103

to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *In re Wesslau*, 147 USPQ at 393.

So first, if one of ordinary skill in the art were to follow the cited prior art, there would have been no teachings of various elements in the present claimed invention. The primary reference would not have taught a number of elements pertinent to the claimed inventions. Beyond the distinctions noted elsewhere hereinabove, Applicants respectfully suggest, *arguendo*, the Minghetti et al. reference is at most marginally related to a layer (B) of the present invention. Applicant emphasizes that the Minghetti et al. reference does not disclose or suggest a bi-layered structure, let alone an at least three-layer laminated sheet. The Minghetti et al. reference discloses a monomer rich acrylic syrup containing ground acrylic particles from which a sheet - one layer - is formed wherein the matrix monomer and uncrosslinked polymer form a phase which extends through the particles. Abstract. The Minghetti et al. reference discloses a thermoformable sheet in which ground PMMA is dispersed, see column 2, lines 20-51, but there is no disclosure of an at least three layer structure to the sheet. According to the Minghetti et al. reference the particles become swollen, as seen from throughout the reference, and mention is made of column 3, lines 3-22, but again there is no suggestion of an at least three layer structure. The Minghetti et al. “Detailed Description of the Invention” from column 3, line 32 to column 5, line 20 (before Example 1) additionally describes, in detail, *inter alia*, the acrylic particles, discloses scrap can be ground up to make the particles, the syrup, a meaning for PMMA, swollen particles, and uncrosslinked polymer contents, but again there is no disclosure of an at least three layer structure. The Minghetti et al. reference discloses grinding up acrylic sheets and adding the ground particulates to 595 grams of a solution of PMMA in MMA, and making a suspension, from which a hardened cell was formed, all as described in column 5, lines 23-51. Example 1 can be read, re-read, and re-read yet again, but the Minghetti et al. references’ Example 1 does not disclose nor suggest an at least three layer structure. Continuing, the Minghetti et al. reference describes preparing ground particles from three different colored acrylic sheets, and adding the ground particles to a mixture of MMA and PMMA, making a suspension therefrom, heating it, and then curing to obtain a cell in

Example 2 at column 5, line 54 to column 6, line 3. Example 2 can be read, re-read and re-read yet again, but it neither discloses nor suggests an at least three layer structure. The reference to thermoforming in column 6, lines 5 - 15 concerns separately thermoforming the sheet of Example 1 and the sheet of Example 2, which still neither discloses nor suggests the at least three layer structure. The Minghetti et al. reference next discloses a modified I-300 acrylic sheet in Example 3 at column 6, lines 18-25, but presents neither disclosure nor suggestion of an at least three layer structure. So too for Example 4 at column 6, lines 28-35. The Minghetti et al. reference discloses thermoforming the samples from Example 3 and 4 at column 6, lines 37-41, offers a comparison at column 6, lines 42-59, but provides neither disclosure nor suggestion of an at least three layer structure. Although ordinarily one would not consider claims the measure of a reference's teachings, the Minghetti et al. claims 1 and 2 make no mention of multi-layered structures, let alone a bi-layer or even an at least three layer structure.

Now, with the admonition of the *Wesslau* court in mind, it will be apparent that the shortcomings in the Minghetti et al. reference could not be overcome even if it would have been combined with the Hatakeyama reference. This is established beyond cavil following even a cursory review of the patent prosecution record:

- (A) A prior Office Action concedes “[w]ith respect to claims 9-11, Hatakeyama does not teach [that the] base layer should comprise rubber-containing polymer.” October 4, 2001, Office Action, page 5.
- (B) “Applicants ... argue that Hatakeyama does not teach a three-layered film. The examiner agrees with the Applicants interpretation of the reference.” November 20, 2000 Advisory Action, page 3, lines 4-5.
- (C) “Applicants further argue that Hatakeyama does not teach the presence of methyl methacrylate resin particles. The examiner agrees with Applicant’s interpretation.” November 20, 2000, Advisory Action, page 2, last paragraph.

- (D) Hatakeyama et al. also admittedly “do not specifically state that ... the resin layer (i.e., layer A) contains the rubber-containing polymer.” June 26, 2000, Final Rejection, page 5, lines 1-2.
- (E) Hatakeyama et al. further admittedly “do not specifically state that the acrylic film (i.e. layer A) contains methyl methacrylate resin particles.” June 26, 2000 Final Rejection, page 5, lines 1-2.

So if one of ordinary skill in the art were to follow the teachings of the references, the resultant product would not read on the claimed inventions, nor would it have suggested the claimed inventions to one of ordinary skill in the art.

Second, the Applicant respectfully requests the Examiner to reconsider and withdraw the rejection notwithstanding the Office Action statement that “[t]he current rejection does not rely upon Hatakeyama for such teachings”, Office Action, page 6, which precedes the argument that Applicant has merely attacked references one at a time. The Office Action would seem implicitly to concede that the rejection bottoms on piece meal selection from slices of prior art in an effort to retroactively reconstruct the Applicant’s invention, which would be in contravention of both the statutorily-imposed time constraint of Section 103, and the Court of Customs and Patent Appeals ruling in the *Wesslau* case.

Therefore, it matters not whether the Applicant has distinguished over the Minghetti et al. reference, and also separately pointed to teachings not discoverable in the Hatakeyama reference. The gravamen is neither reference alone or in combination provides a factual foundation for a *prima facie* case of obviousness for the reasons stated.

Accordingly, please reconsider and withdraw the rejection.

Claims 1, 2, 5 and 9-15 define unobvious inventions over the Hatakeyama et al. reference in view of the Minghetti et al. reference.

Arguendo, even if the references would have been flip flopped, their “new” combination would not have suggested the present claimed inventions to one of ordinary skill in the art. The Hatakeyama et al. reference does not disclose and would not have suggested a layer containing acrylic resin particles and a three-layer laminated sheet.¹ For the sake of argument, the Minghetti et al. reference may at most pertain to a layer (B), although the reference would not have suggested such layer as claimed. Indeed, as demonstrated above, the Minghetti et al. reference does not disclose or suggest an at least three-layer laminated sheet. Structurally, the art cited would not have suggested the present claimed multi-layered structural element.

Neither the Minghetti et al. nor the Hatakeyama et al. reference disclose or suggest any awareness or concern that about smaller bias of thickness in a thermoformed article. The Hatakeyama et al. reference discloses an acrylic film for an acrylic-laminated injection molded article. After the acrylic film is formed to the three-dimensional shape by vacuum molding, the base resin is injected and the acrylic film and the base resin are simultaneously melt-integrated. Therefore, the Hatakeyama reference et al. does not disclose a laminated extruded resin sheet and a method for obtaining a molded article having smaller bias of thickness in secondary thermoforming. That is, the Hatakeyama et al. reference does not disclose an at least three-layer laminated sheet which is obtained by laminating acrylic resin layers containing insoluble acrylic resin particles on both surfaces of a acrylic resin layer.

Accordingly, Applicant respectfully submits the present claimed inventions would not have been obvious over the Hatakeyama et al. reference even if it would have been combined with the Minghetti et al. reference.

Conclusion

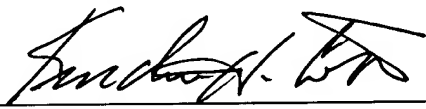
¹ The Hatakeyama et al. reference does not disclose an at least three-layer laminated sheet which is obtained by laminating acrylic resin layers containing insoluble acrylic resin particles on both surfaces of a acrylic resin layer. *See, e.g.*, Office Actions of record herein.

If the Examiners have any questions, please contact the undersigned to arrange for a personal interview.

Applicants respectfully request entry of the editorial amendments submitted herewith, and further respectfully solicit a notice of allowance.

Respectfully submitted,

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APPENDIX

Amendments to existing claims:

1. (Amended) A laminated extruded resin sheet comprising a methyl methacrylate resin produced by laminating resin layers (B) on both surfaces of a resin layer (A) by a multilayer-extrusion molding method, the resin layer (A) comprising a methyl methacrylate resin, and the resin layer (B) being made by dispersing uniformly 1 to 50 parts by weight of insoluble methyl methacrylate resin particles having a weight-average particle size of [1] 0.1 to 100 μm based on 100 parts by weight of a base resin comprising a methyl methacrylate resin.

2. (Amended) The laminated extruded resin sheet comprising a methyl methacrylate resin according to Claim 1, wherein the methyl methacrylate resin in the layer (A) and the layer (B) is a resin containing 50% by weight or more of a methyl methacrylate polymer or a copolymer comprising 50% by weight or more of methyl methacrylate unit and a monofunctional unsaturated monomer unit as a constituent unit.

18. (Amended) A laminated extruded resin sheet comprising a methyl methacrylate resin produced by laminating resin layers (B) on both surfaces of a resin layer (A) by a multilayer-extrusion molding method, the resin layer (A) comprising a methyl methacrylate resin, and the resin layer (B) being made by dispersing uniformly 1 to 50 parts by weight insoluble methyl methacrylate resin particles having a weight-average particle size of [1] 0.1 to 100 μm based on 100 parts by weight of a base resin comprising a methyl methacrylate resin, wherein a layer thickness ratio of resin layer (B)/resin layer (A)/resin layer (B) is from 1/200/1 to 1/1/1, and wherein the base resin comprises 100 parts by weight of a methyl methacrylate resin and 5 to [20] 70 parts by weight of a rubber-containing polymer.

19. (Amended) The laminated extruded resin sheet according to Claim 18, wherein the resin layer (A) is made by dispersing uniformly 3 to 50 parts by weight of a rubber-containing polymer into 100 parts by weight of a methyl methacrylate resin, ~~and the base~~

In re Appln. of MAEKAWA, Tomohiro
Application No. 09/161,283

resin comprises 100 parts by weight of a methyl methacrylate resin and 5 to 70 parts by weight of a rubber-containing polymer.